

TITLE: MULTIPLE FUNCTIONAL VACUUM CLEANER

BACKGROUND OF THE INVENTION

The present invention relates to a multiple functional vacuum cleaner. More particularly, the present invention relates to a multiple functional vacuum cleaner for a vehicle.

A conventional vacuum cleaner cannot be converted into a tire inflator. A conventional vacuum cleaner cannot be converted into an illuminator device, either.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a multiple functional vacuum cleaner which is used as a vehicle vacuum cleaner.

Another object of the present invention is to provide a multiple functional vacuum cleaner which is used as a tire inflator.

Another object of the present invention is to provide a multiple functional vacuum cleaner which is used as an illuminator device.

Accordingly, a multiple functional vacuum cleaner comprises a main casing, a head casing disposed on a front portion of the main casing, a lower container disposed on a bottom of the main casing, a handle connected to the main casing and the head casing, a pressing button, and a spring. The head casing has

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a front mouth, a soft plastics pad, a filter net, and a rear insertion plate. A sucking pipe is connected to the front mouth. The sucking pipe has an end recess. The front mouth has a click block inserted in the end recess of the sucking pipe. A dust extractor fan is disposed in the front portion of the main casing. A rechargeable cell is disposed in the bottom of the main casing. An inflator device is disposed in the main casing. The main casing has a plurality of radiation vent holes, a plurality of bottom grooves, a rechargeable socket, an upper front chamber, a lower front groove, a rear opening, and a rear inner flange. The rear insertion plate is inserted in the lower front groove of the main casing. The upper front chamber of the main casing receives the pressing button and the spring. The rear insertion plate is inserted in the lower front groove of the main casing. A lower recess is formed in the upper front chamber of the main casing. The pressing button has a lower positioning bar inserted in the lower recess of the upper front chamber of the main casing. The lower container has a plurality of upper connection blocks inserted in the bottom grooves of the main casing. An illuminator device is disposed in a rear portion of the main casing. The illuminator device has a lamp, an inner shade surrounding the lamp, a protective shade

covering the inner shade, and a transparent sash shade covering the rear opening of the main casing. The transparent sash shade has an outer flange to engage with the rear inner flange of the main casing.

05 BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a multiple functional vacuum cleaner of a preferred embodiment in accordance with the present invention;

FIG. 2 is a sectional view of a dust extractor fan of a preferred embodiment in accordance with the present invention;

FIG. 3 is a partially sectional view of a multiple functional vacuum cleaner of a preferred embodiment while a head casing is removed;

FIG. 3A is a schematic view illustrating a pressing button engaging with a head casing;

FIG. 4 is a sectional view of a multiple functional vacuum cleaner of a preferred embodiment in accordance with the present invention;

FIG. 4A is a sectional view taken along line 4A-4A in FIG. 4;

FIG. 5 is an elevational view of a multiple functional vacuum cleaner of a preferred embodiment in accordance with the present invention;

FIG. 6 is a schematic view illustrating a sash shade

is moved downward; and

FIG. 7 is a top plan view of a multiple functional vacuum cleaner of a preferred embodiment in accordance with the present invention.

05 DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 1 to 7, a multiple functional vacuum cleaner 1 comprises a main casing 10, a head casing 15 disposed on a front portion of the main casing 10, a lower container 19 disposed on a bottom of the main casing 10, a handle 104 connected to the main casing 10 and the head casing 15, a pressing button 14, and a spring S.

The head casing 15 has a front mouth 153, a soft plastics pad 155, a filter net 16, and a rear insertion plate 151.

A sucking pipe 17 is connected to the front mouth 153. The sucking pipe 17 has an end recess 171.

The front mouth 153 has a click block 154 inserted in the end recess 171 of the sucking pipe 17.

20 The sucking pipe 17 contacts the soft plastics pad 155.

A dust extractor fan 11 is disposed in the front portion of the main casing 10.

25 A rechargeable cell 18 is disposed in the bottom of the main casing 10.

An inflator device 20 is disposed in the main casing 10.

05 The inflator device 20 has a motor 21, a pump 23, a piston 22, an inflator hole 26, an air tube 24, a tire gauge 27, an air tube 24 connected to the inflator hole 26, an air pipe 25 connected to the tire gauge 27, the motor 21 connected to the piston 22, and the piston 22 connected to the pump 23.

10 The main casing 10 has a plurality of radiation vent holes 28, a plurality of bottom grooves 101, a rechargeable socket 181, an upper front chamber 12, a lower front groove 13, a rear opening 102, and a rear inner flange 103.

15 The rear insertion plate 151 is inserted in the lower front groove 13 of the main casing 10.

The upper front chamber 12 of the main casing 10 receives the pressing button 14 and the spring S.

The rear insertion plate 151 is inserted in the lower front groove 13 of the main casing 10.

20 A lower recess 152 is formed in the upper front chamber 12 of the main casing 10.

The pressing button 14 has a lower positioning bar 141 inserted in the lower recess 152 of the upper front chamber 12 of the main casing 10.

25 When the pressing button 14 is pressed downward,

the lower positioning bar 141 disengages from the lower recess 152 of the upper front chamber 12 of the main casing 10.

05 The lower container 19 has a plurality of upper connection blocks 191 inserted in the bottom grooves 101 of the main casing 10.

An illuminator device 30 is disposed in a rear portion of the main casing 10.

10 The illuminator device 30 has a lamp 32, an inner shade 31 surrounding the lamp 32, a protective shade 33 covering the inner shade 31, and a transparent sash shade 34 covering the rear opening 102 of the main casing 10.

15 The transparent sash shade 34 has an outer flange 341 to engage with the rear inner flange 103 of the main casing 10.

A first switch button 40 is disposed on the handle 104 in order to control the dust extractor fan 11.

20 A second switch button 41 is disposed on the handle 104 in order to control the illuminator device 30.

The invention is not limited to the above embodiment but various modification thereof may be made. Further, various changes in form and detail may be made without departing from the scope of the invention.